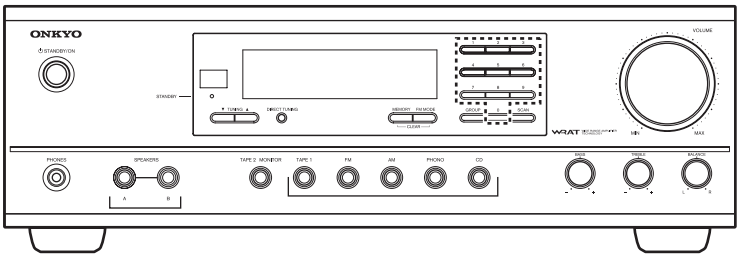
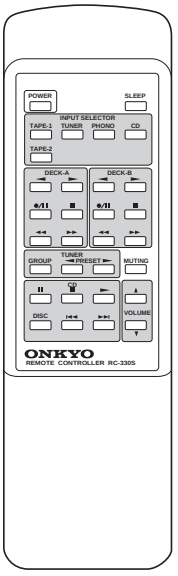
Ref. No. 3849
092004

ONKYO SERVICE MANUAL

STEREO RECEIVER

MODEL TX-8011





RC-330S

Black model

BMDD	120 V AC, 60 Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SPECIFICATIONS

Amplifier Section

Power Output	Front L/R 50 W + 50 W (8ohm, 20 Hz-20 kHz, FTC)
Dynamic Power	105 W + 105 W (4 ohm) 70 W + 70 W (8 ohm)
THD (Total Harmonic Distortion)	0.08 % (Power Rated)
Damping Factor	60 (Front, 1 kHz, 8 ohm)
Input Sensitivity and Impedance	150 mV/50 kohm (LINE) 2.5 mV/50 kohm (PHONO MM)
Output Level and Impeadance	150 mV/2.2 kohm (REC OUT)
Phono Overload	120 mV (MM 1 kHz 0.5 %)
Frequency Response	10 Hz-100 kHz/+1 dB -3 dB (TONE FLAT, CD, TAPE-1, TAPE-2/MONITOR)
Tone Control	±10 dB, 50 Hz (BASS) ±10 dB, 20 kHz (TREBLE)
SN Ratio	100 dB (LINE ,IHF-A) 80 dB (PHONO, IHF-A)
Speaker Impedance	4 ohm

Tuner Section

FM

Tuning Frequency Range	87.5 MHz-108.0 MHz
Usable Sensitivity	Stereo 17.2 dBf 2.0 µV(75 ohm IHF)
	Mono 11.2 dBf 1.0 µV(75 ohm IHF)
S/N Ratio	Stereo 70 dB (IHF-A)
	Mono 76 dB (IHF-A)
THD	Stereo 0.25 % (1kHz) Mono 0.15 % (1kHz)
Frequency Response	30 Hz-15 kHz/±1.5 dB
Stereo Separation	45 dB (1kHz)

AM

Tuning Frequency Range	530 kHz-1710 kHz
Usable Sensitivity	30 µV
S/N Ratio	40 dB
THD	0.70%

General

Power Supply	AC 120 V, 60 Hz
Power Comsumption	180 W
Stand-by Power Comsumption	1.35 W
Dimensions(W x H x D)	17-1/8" x 5-7/8" x 12-11/16" inches 435 x 150 x 322 mm
Weight	16.3 lbs 7.4 kg
Analog Inputs	PHONO, CD, TAPE-1, TAPE-2/ MONITOR
Analog Outputs	TAPE-1, TAPE-2/MONI
Speaker Outputs	4(SP-A, SP-B)
Phones	1

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacing the fuse

This symbol located near the fuses indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utlise est a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce darnier est la qu le present symbol est appse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252163	4A-UL/T-237,Fuse

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.
To perform a result, please follow the procedure below.

1.Press and hold down the TAPE 1 button, then press the DIRECT TUNING button.
2.After "CLEAR" is displayed, the preset memory stored in the memory, are initialized and will return to the factory setting.

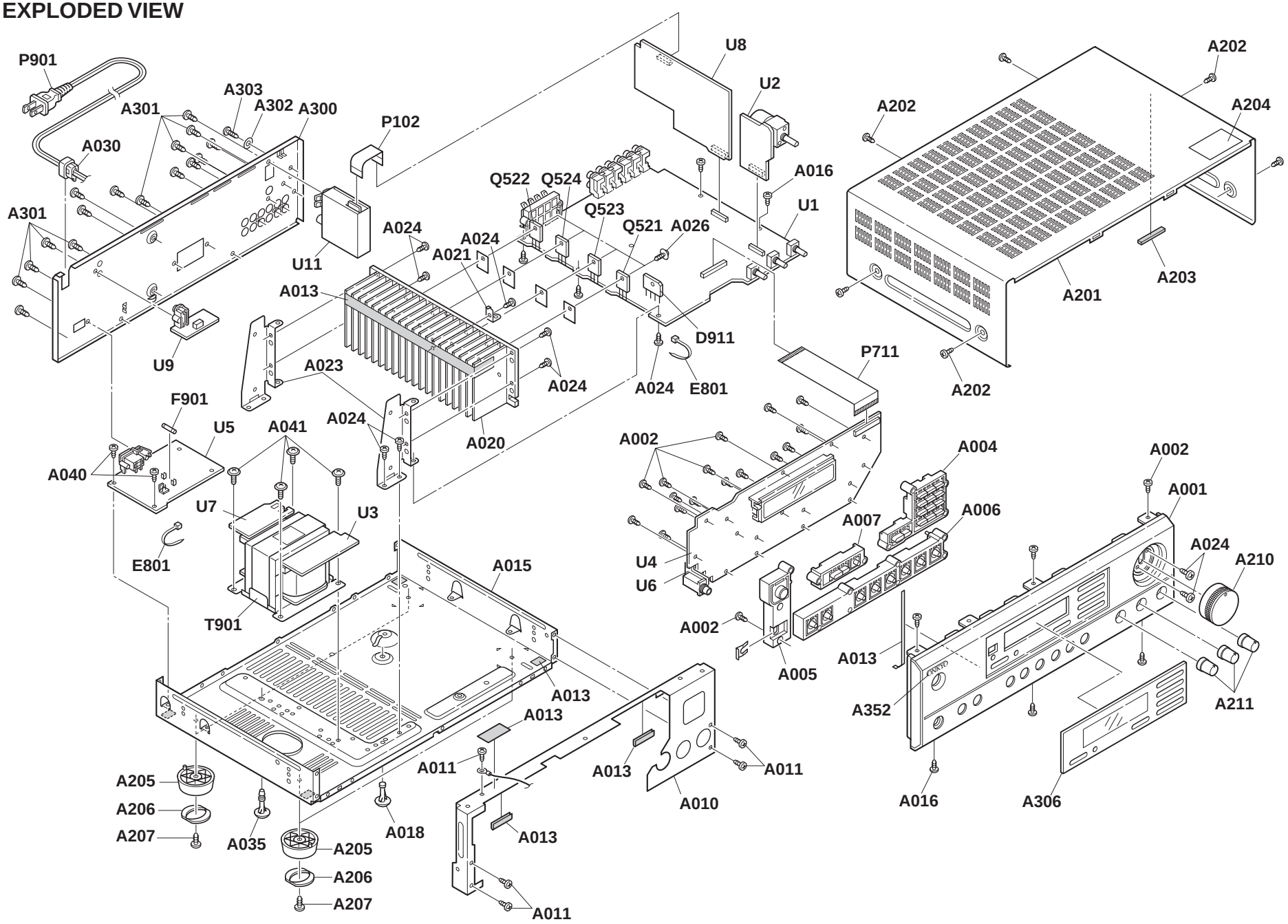
3. Safety-check out

(Only U.S.A. model)
After correcting the original service problem, perform the following safety check before releasing the set to the customer.
Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel.
Specifications: 3.3Mohm±10% at 500V.

4. Memory Preservation

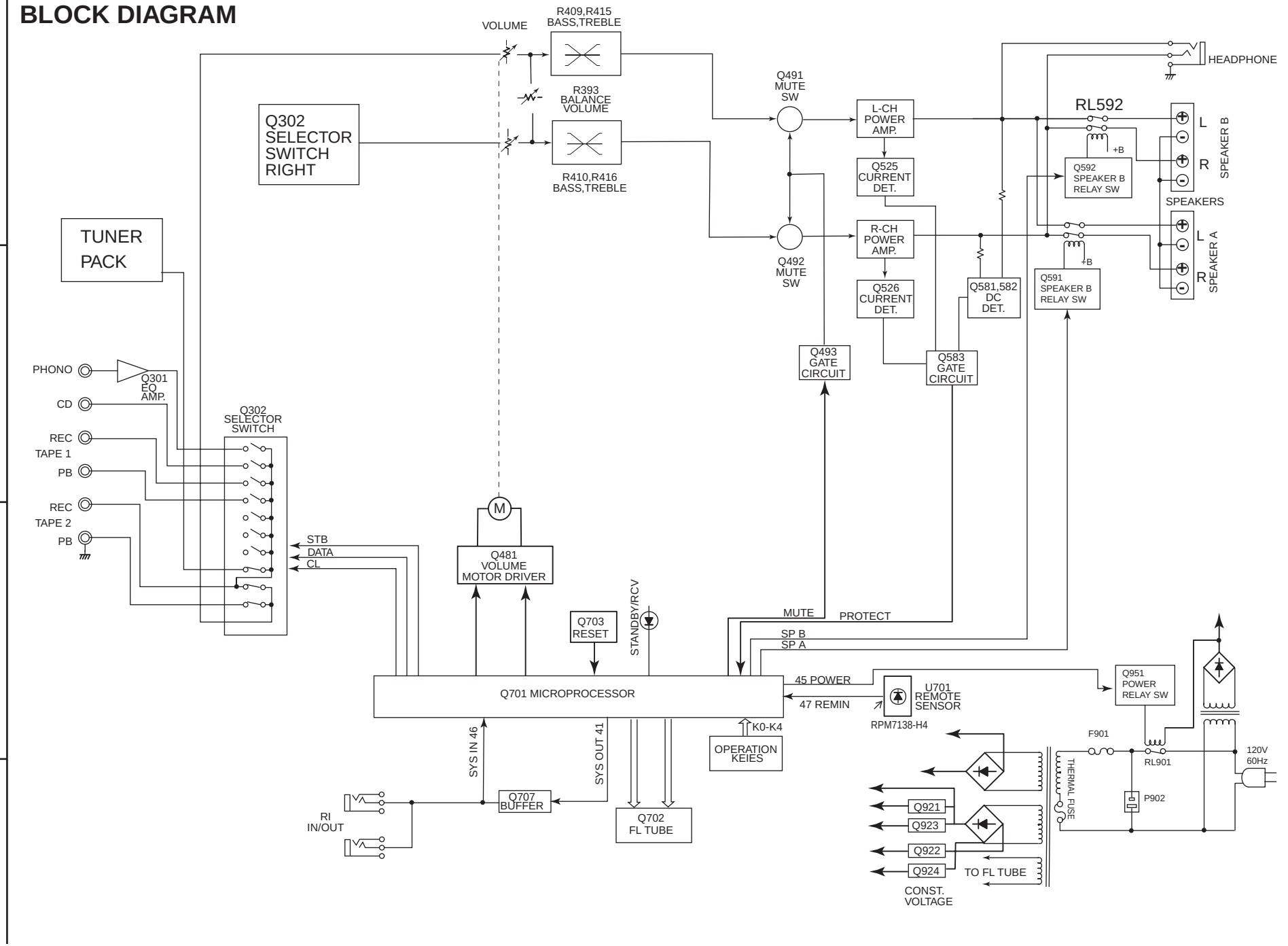
This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

EXPLODED VIEW

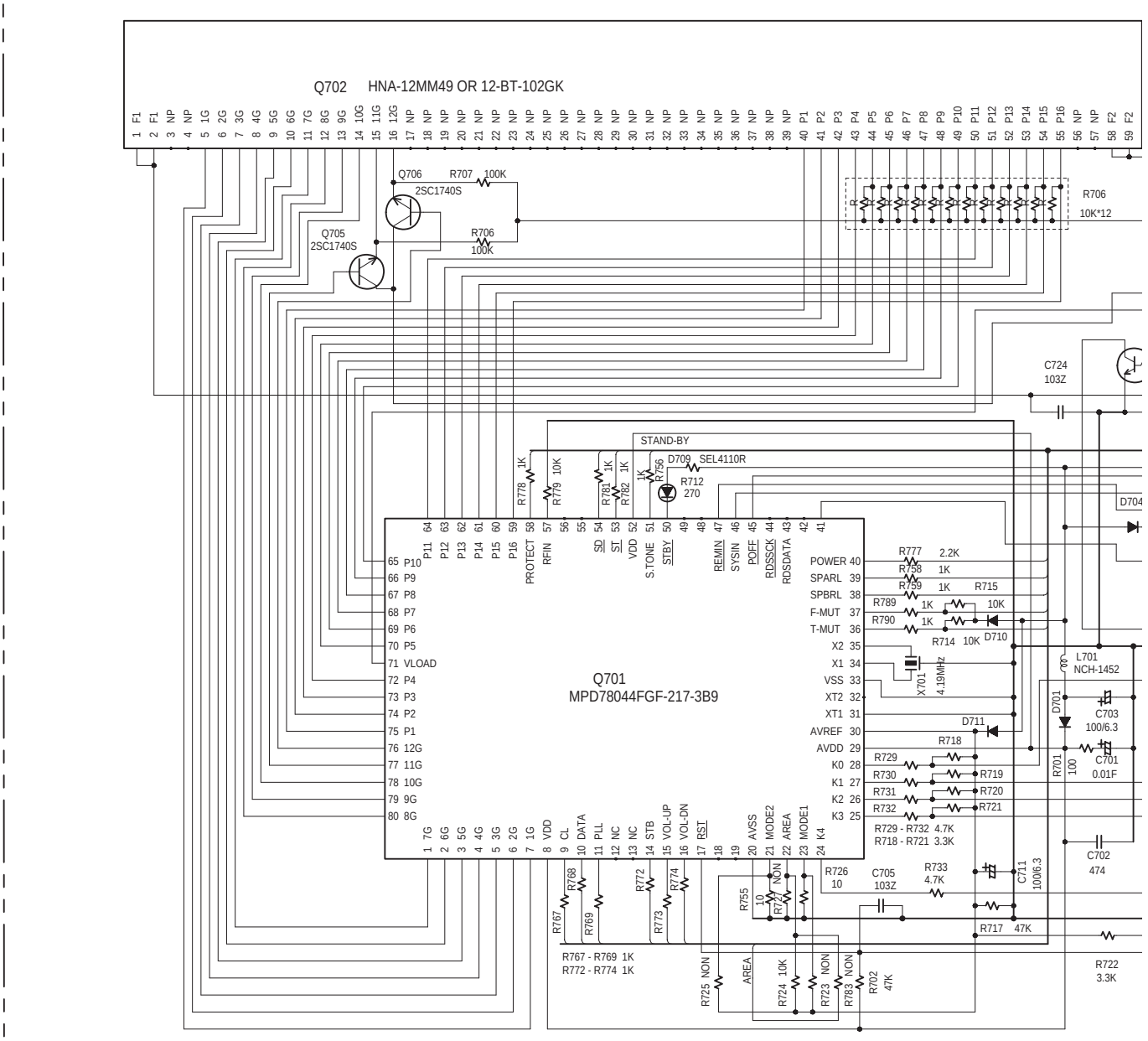


TX-8011

BLOCK DIAGRAM



SCHEMATIC DIAGRAM 1
DISPLAY SECTION



NOTE

- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ⟨ ⟩ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (⊣+) ARE IN u F/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
  EX) 030›3pF 330›33pF 331›330pF 333›0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ○ ○ ○ PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

CAUTION

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

ATTENTION

AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION COMME INDIQUE.

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL

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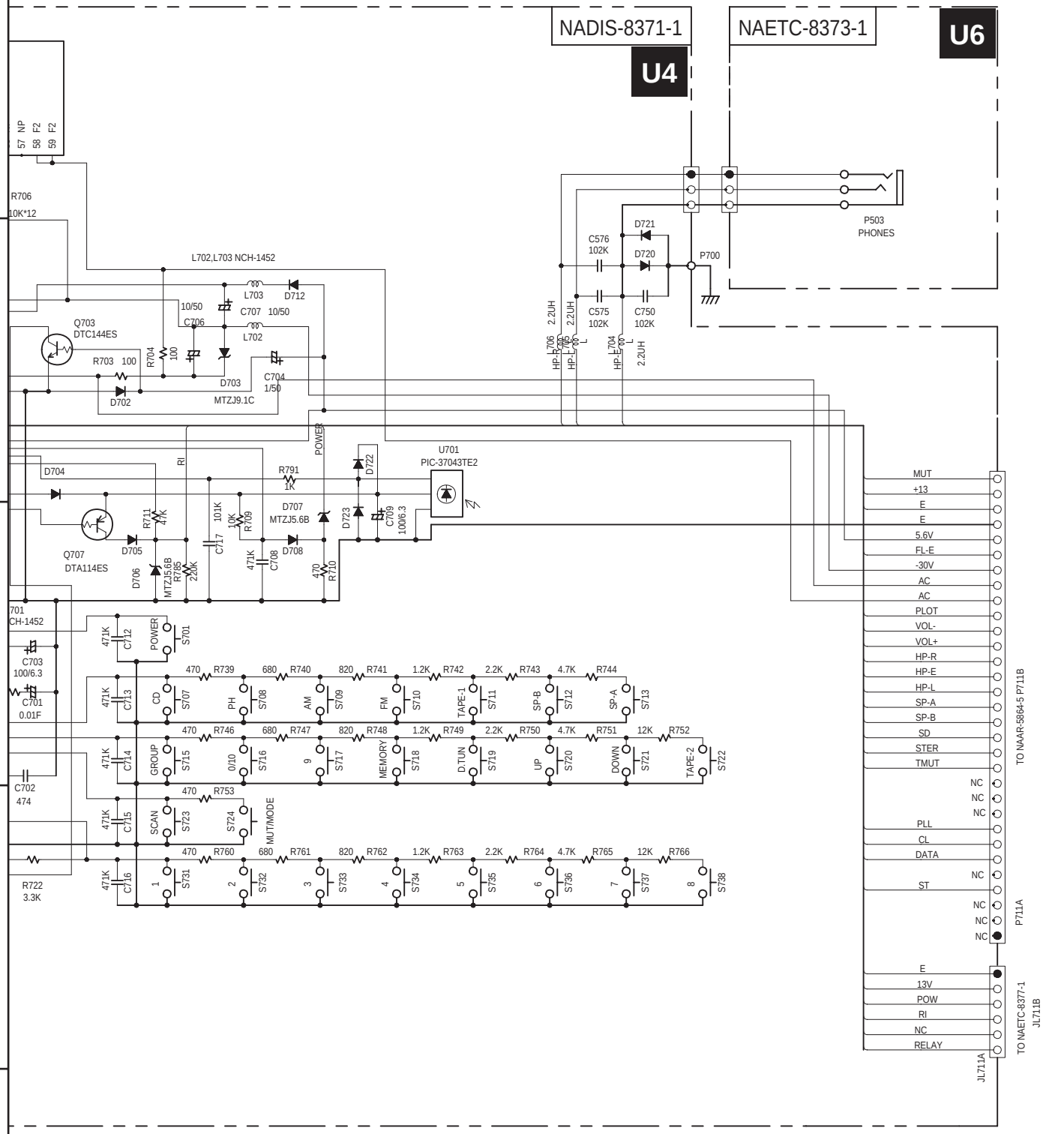
DISPLAY SECTION



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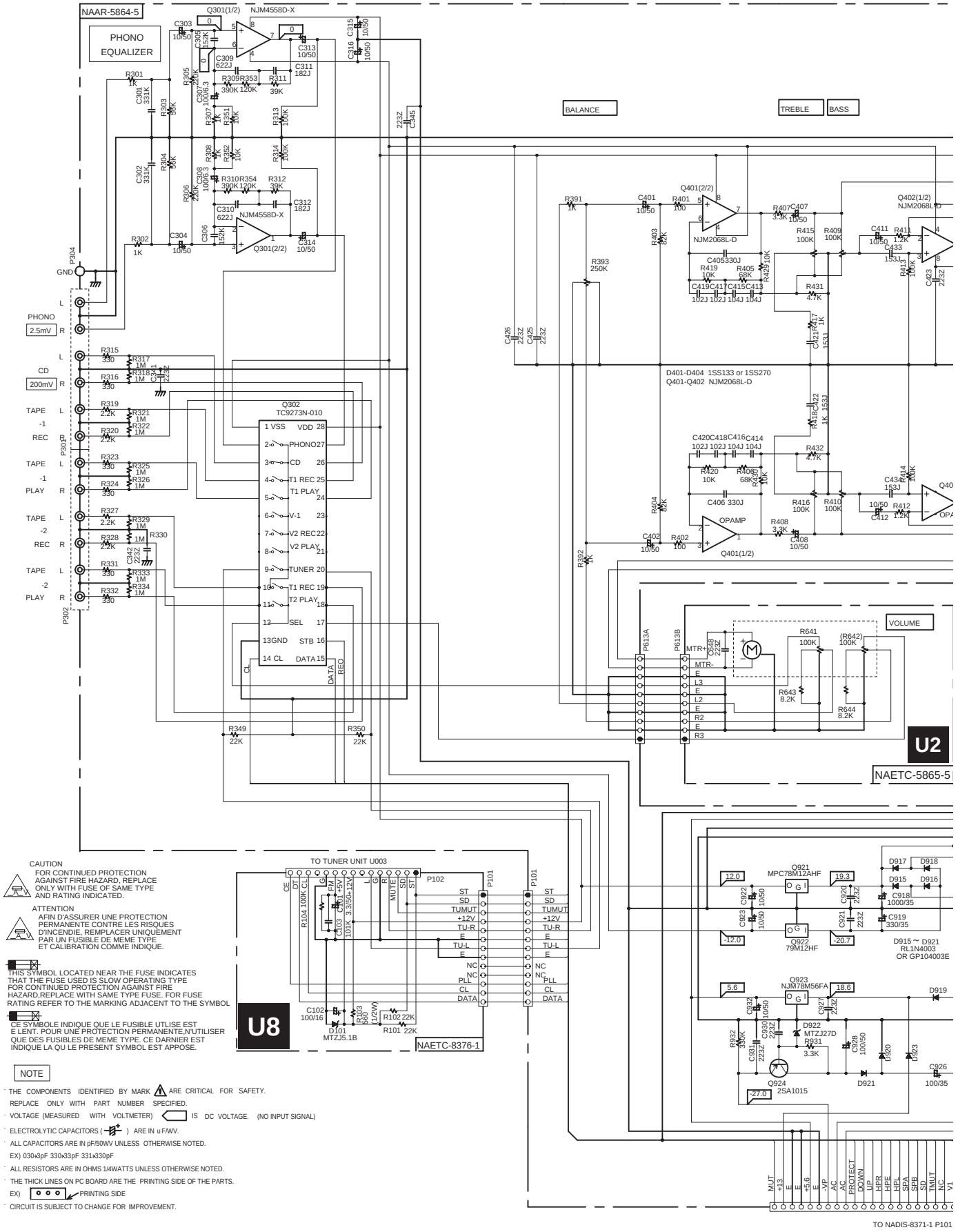
SCHEMATIC DIAGRAM 2
AMPLIFIER SECTION



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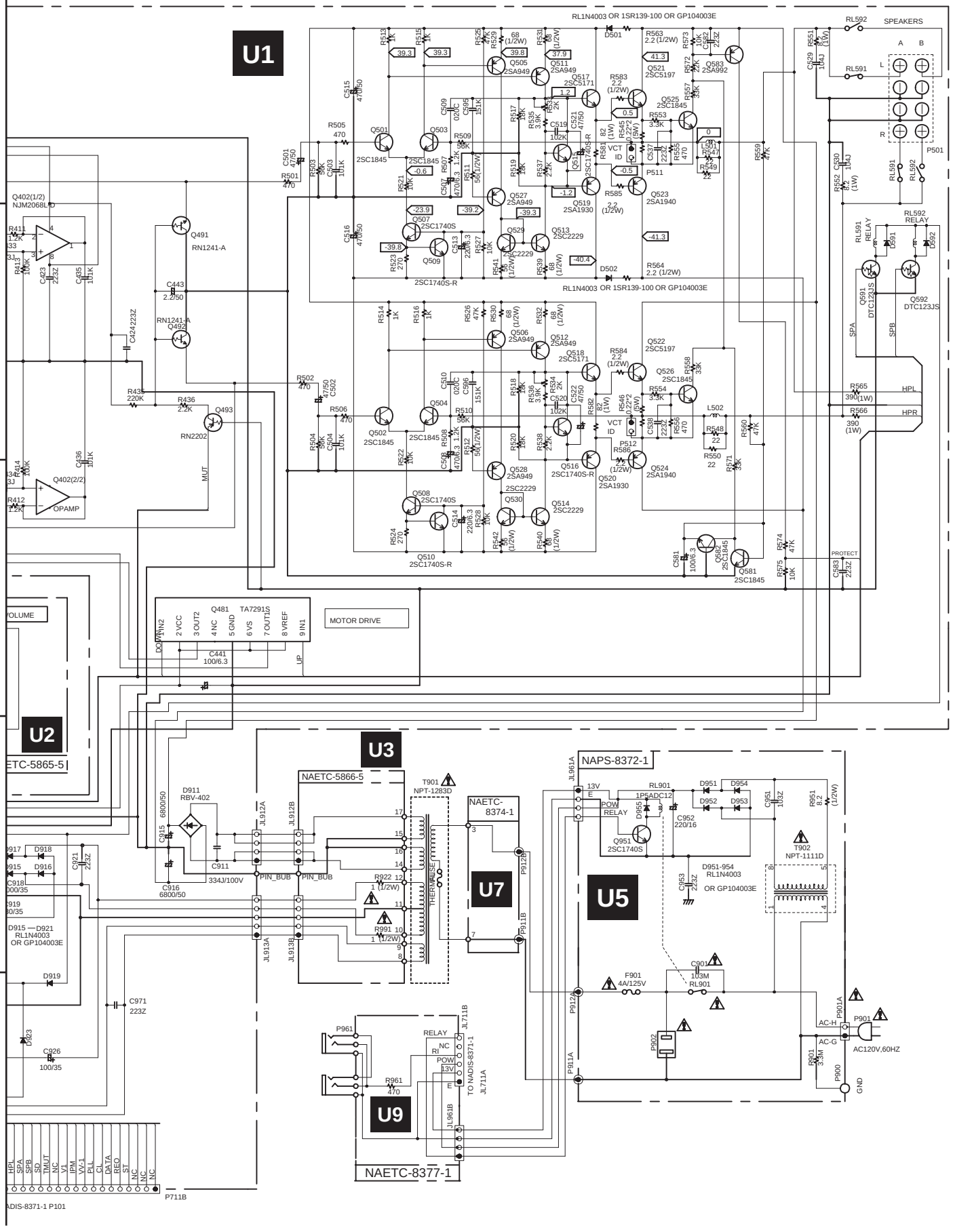

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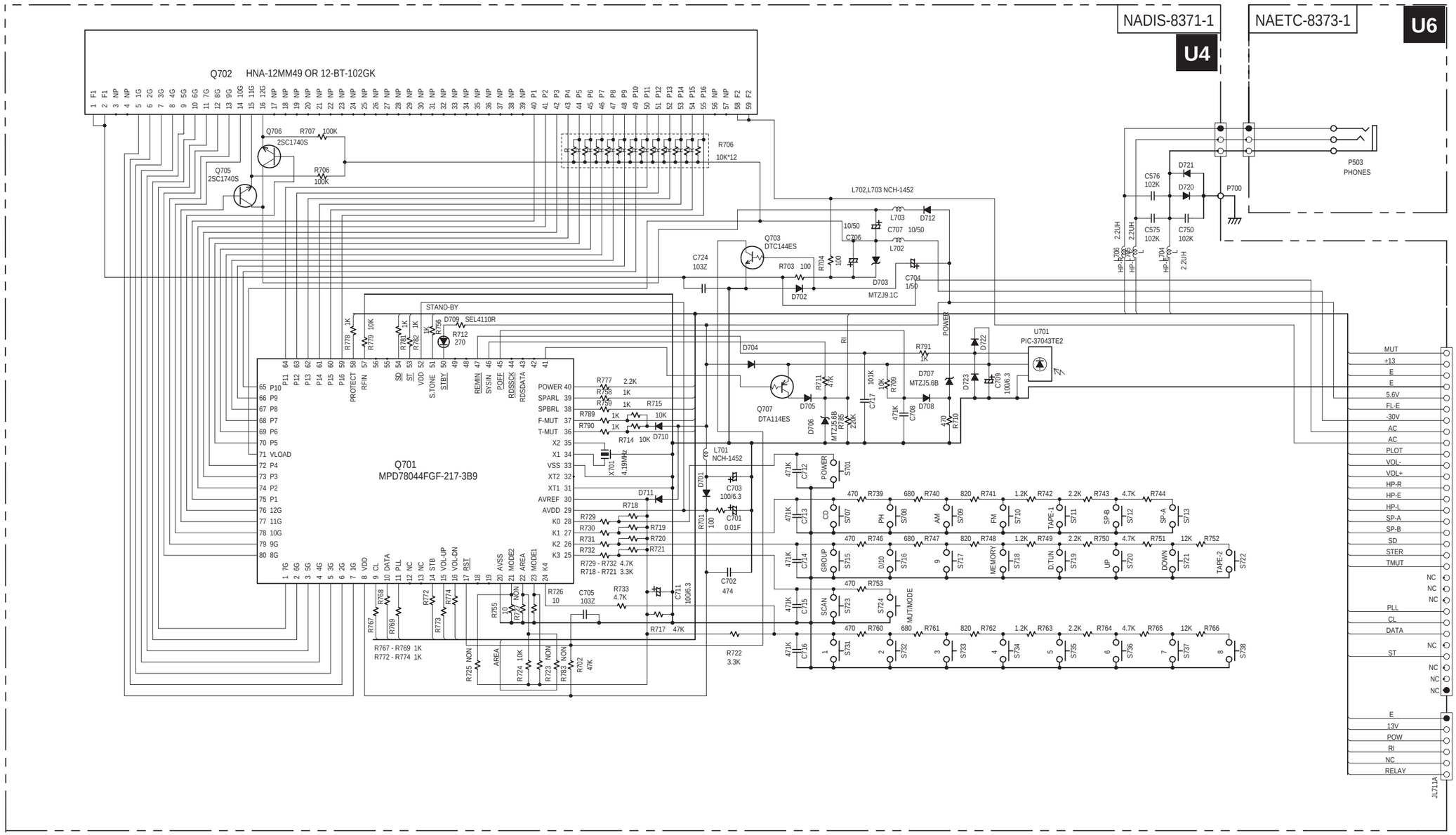
DISPLAY SECTION



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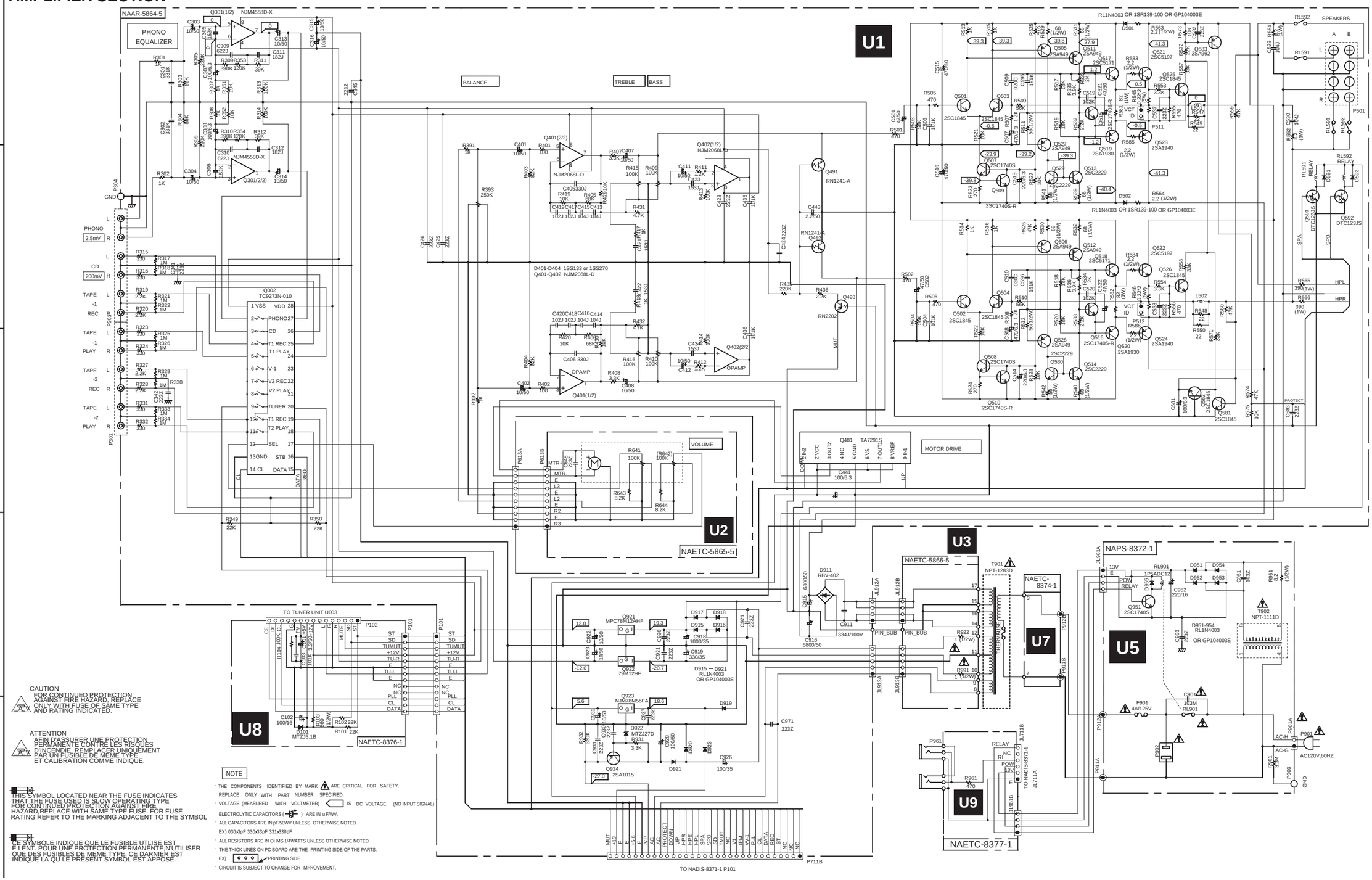


WIRING VIEW

U9
Terminal RI PC board ass'y
RI
NAETC-8377
JL711b
JL961b

U11
Tuner unit
P102

U8
Connection PC board ass'y
NCETC-8376
P101

U1
Main circuit PC board ass'y
NAAR-5864
P501
SP TERMINAL
P302
T2-P T2-R T1-P T1-R
P301
CD PHONO
P522
VCT
RIGHT
R534
R-IID
P521
IID
VCT
P916a
P211a
STE
SD
TMUT
+12V
TUR
E
TUL
E
RDS
RFIN
PLL
CL
DATA
R533
L-IID
P711a
30
1
JL912a
JL913a
P613a

U5
Primary circuit PC board ass'y
NAPS-8372
AC-H
AC-G
P901A
P911
P912
+12V POW
PSW
E
P961A

U7
Transformer terminal PC board ass'y
P913a
P912a
P911a
NAETC-8374
1 3 5 7
T901
NPT-1283D
18 17 16 15 14 13 12 11 10 9 8
JL912b
NAETC-5866
JL913b

U2
Volume PC board ass'y
NAETC-5865
P613b
R641

U3
Secondary terminal PC board ass'y

JL711A

P711

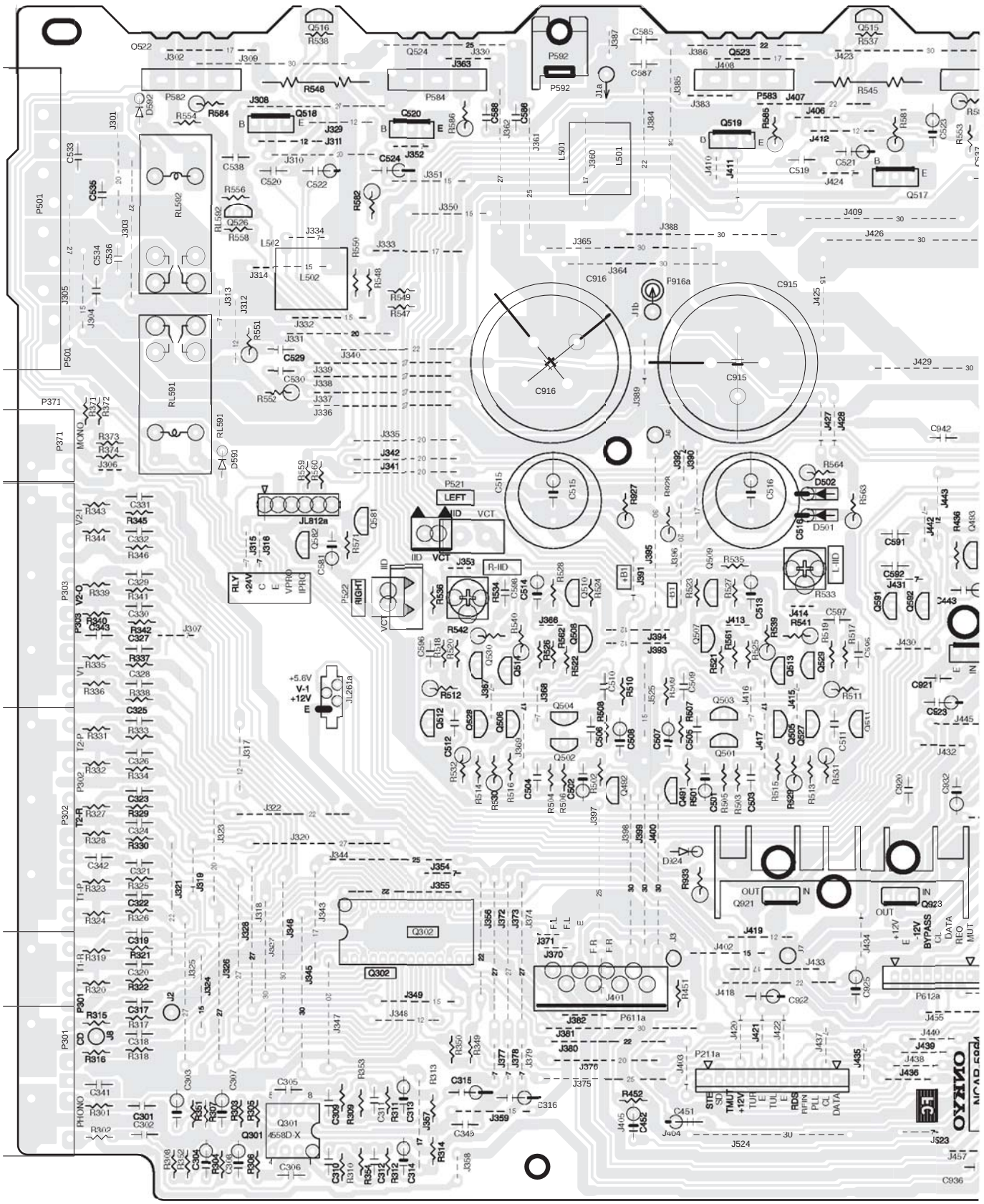
U4
Display circuit PC board ass'y
NADIS-8371
NAETC-8373
P503

U6
Headphone terminal PC board ass'y

A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

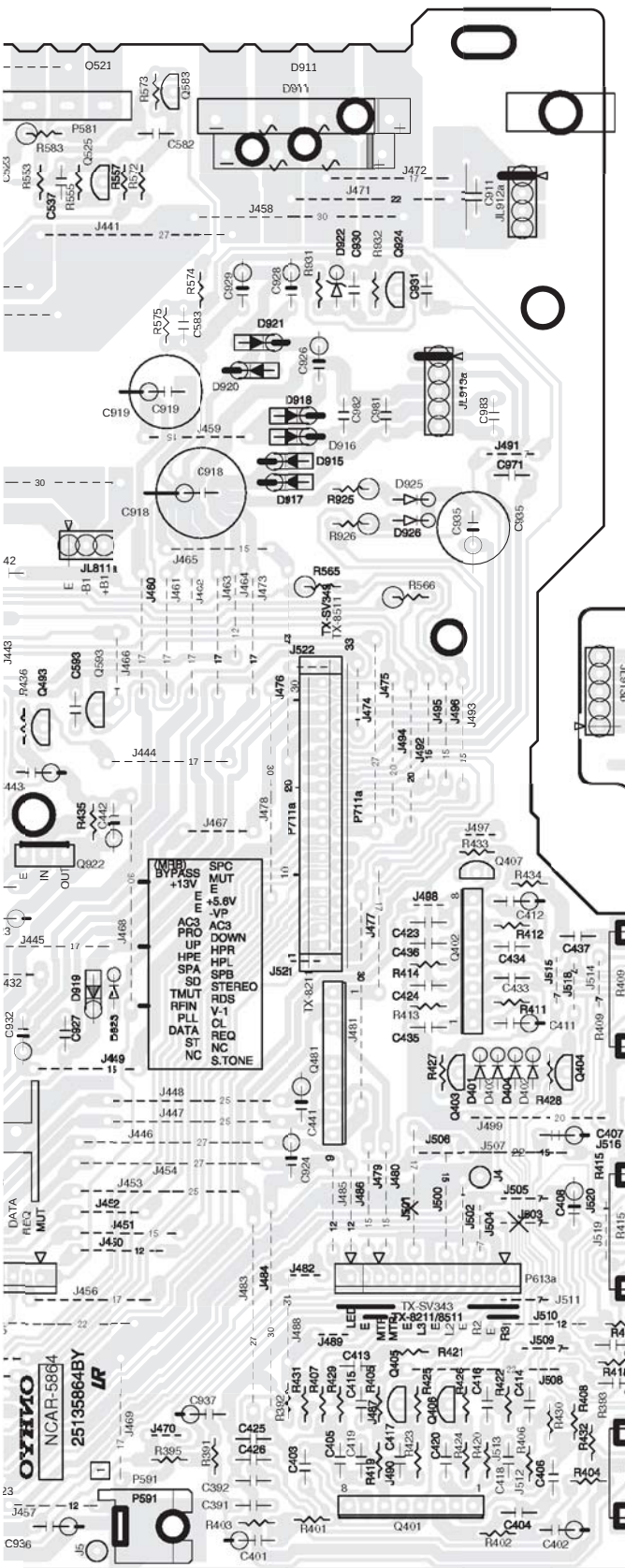


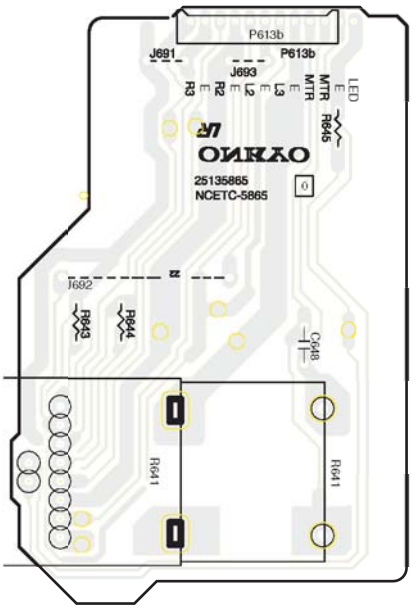
U1 NAAR-5864-5A,Main circuit PC board ass'y

A B C D

1 2 3 4 5

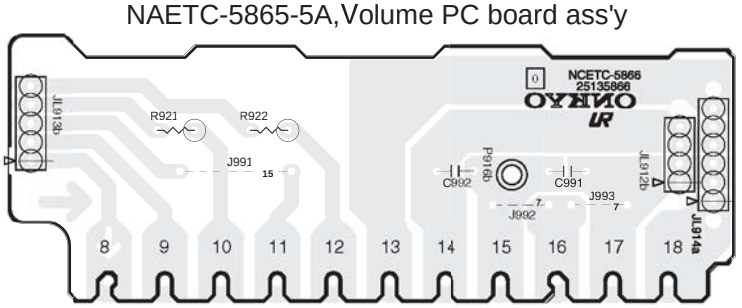
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE





U2

NAETC-5865-5A,Volume PC board ass'y

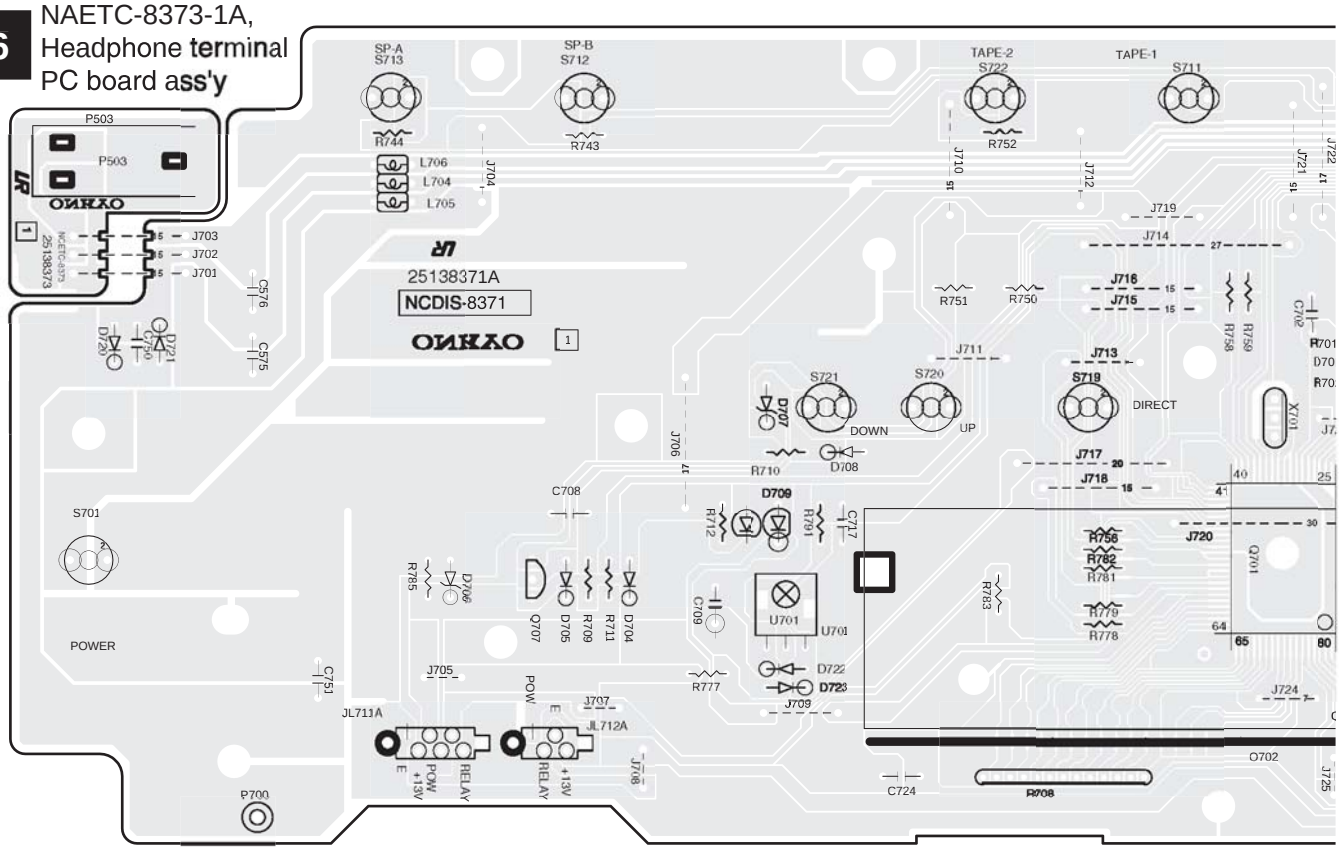


U3

NAETC-5866-5A,Secondary terminal PC board ass'y

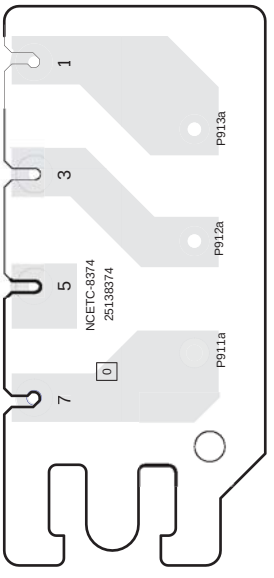
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

U6 NAETC-8373-1A, Headphone terminal PC board ass'y

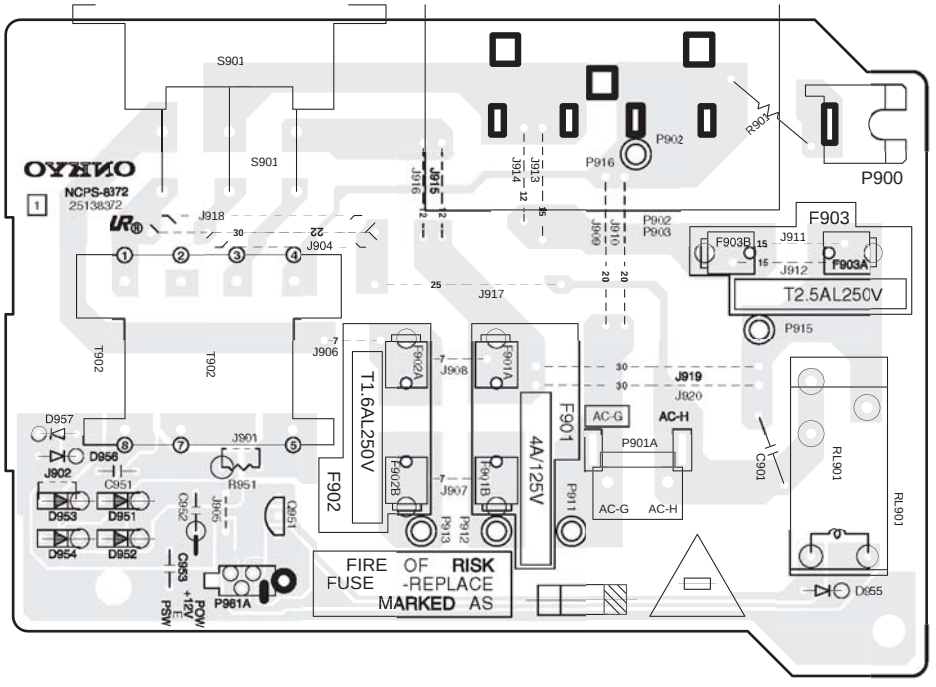


U4 NADIS-8371-1A,Display circuit PC board ass'y

U7

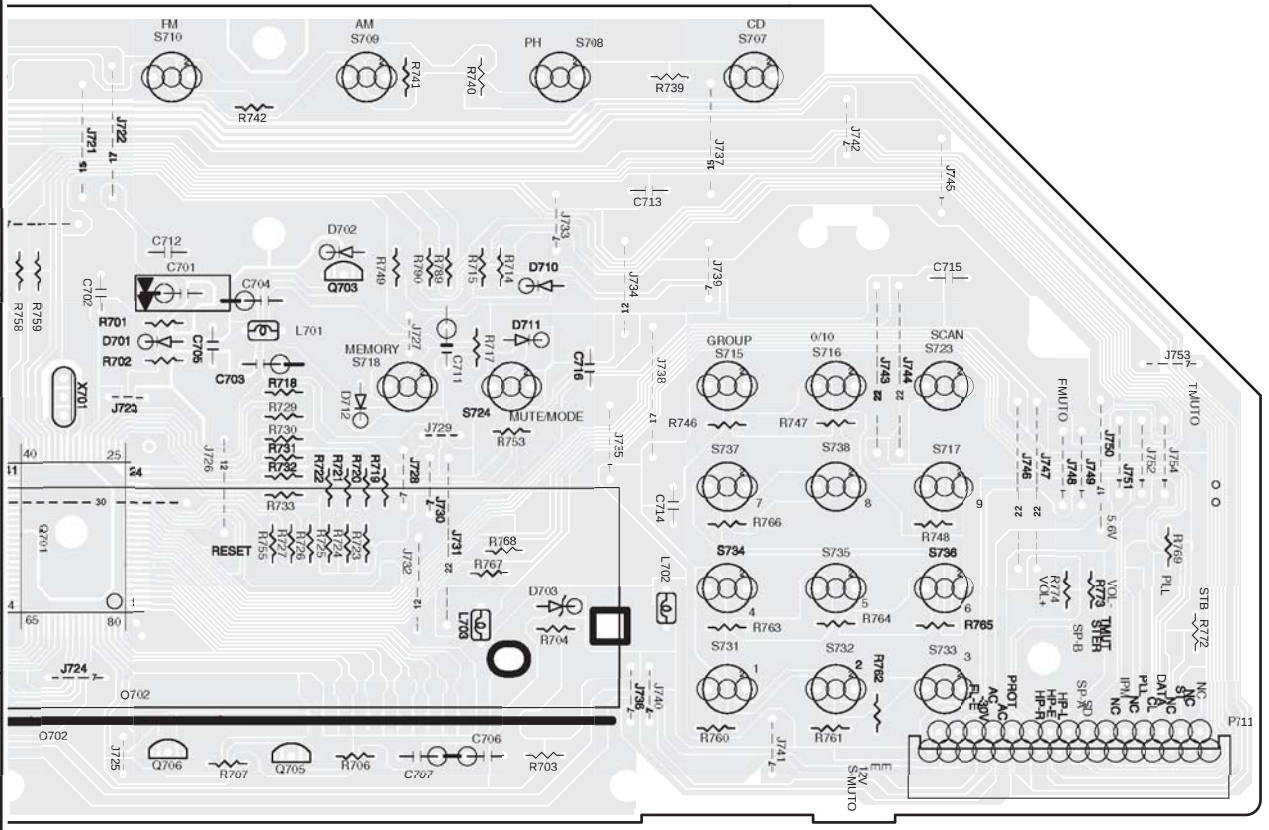


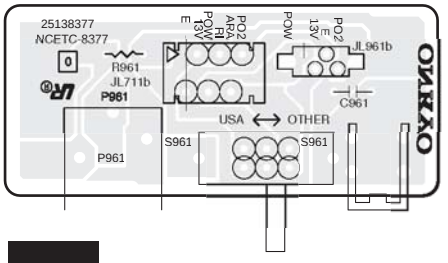
NAETC-8374-1A,Transformer terminal PC board ass'y



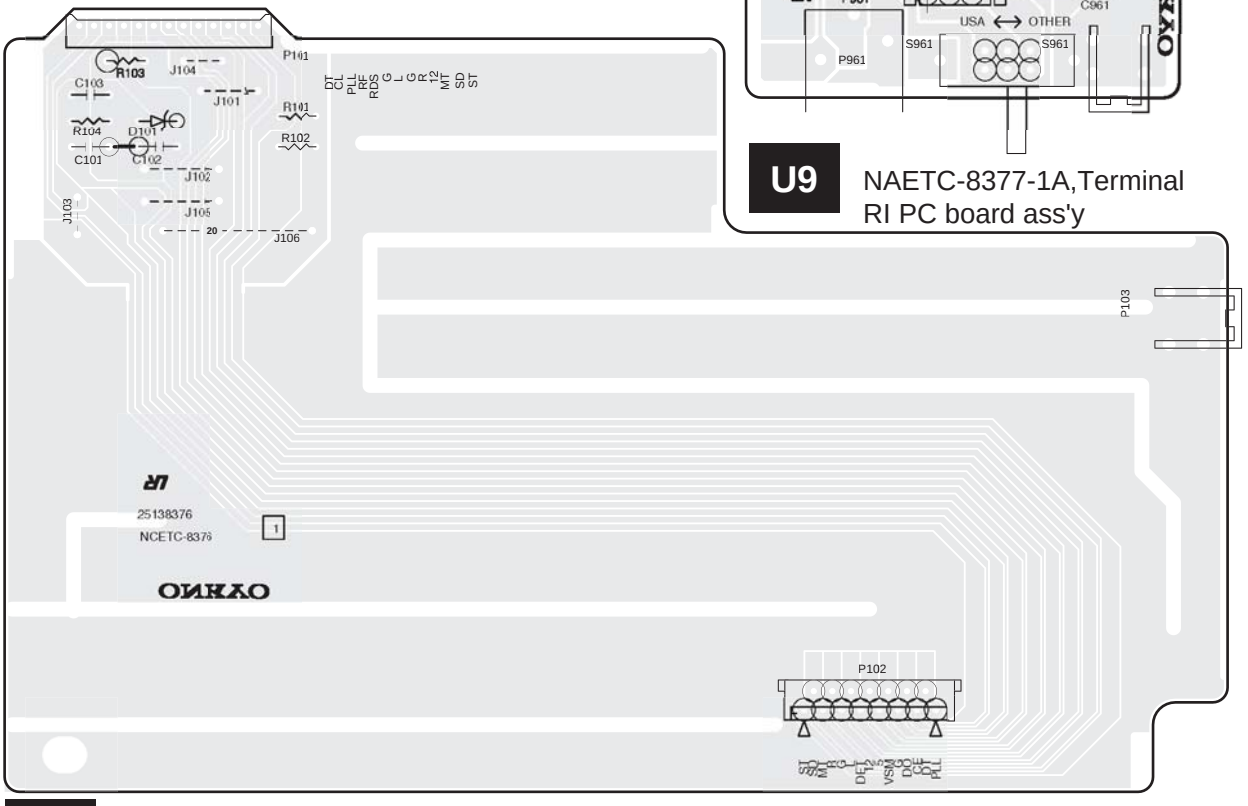
U5 NAPS-8372-1A,Primary circuit PC board ass'y

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE





U9 NAETC-8377-1A,Terminal RI PC board ass'y

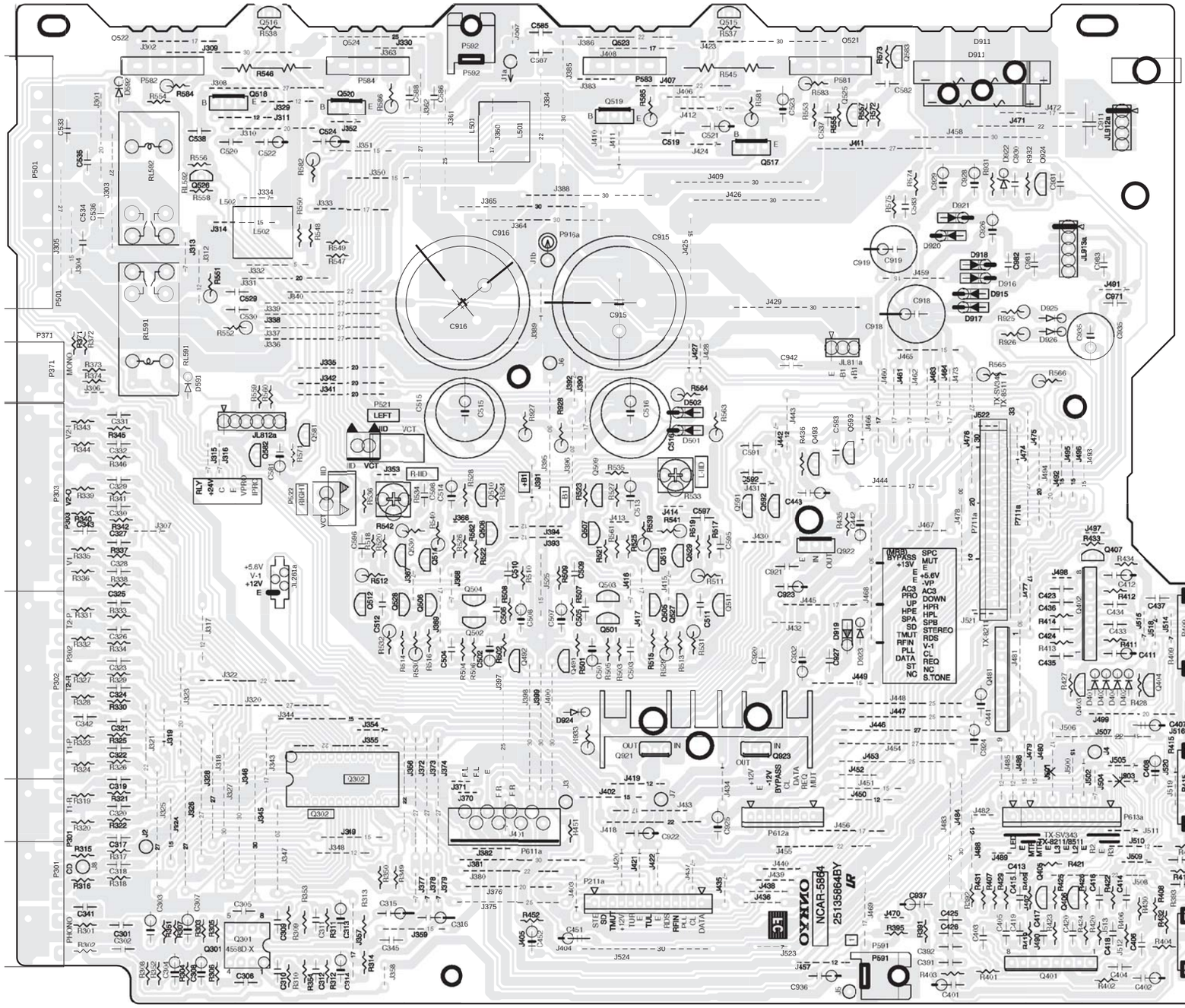


U8 NAETC-8376-1A,Connection PC board ass'y

A B C D E F G H

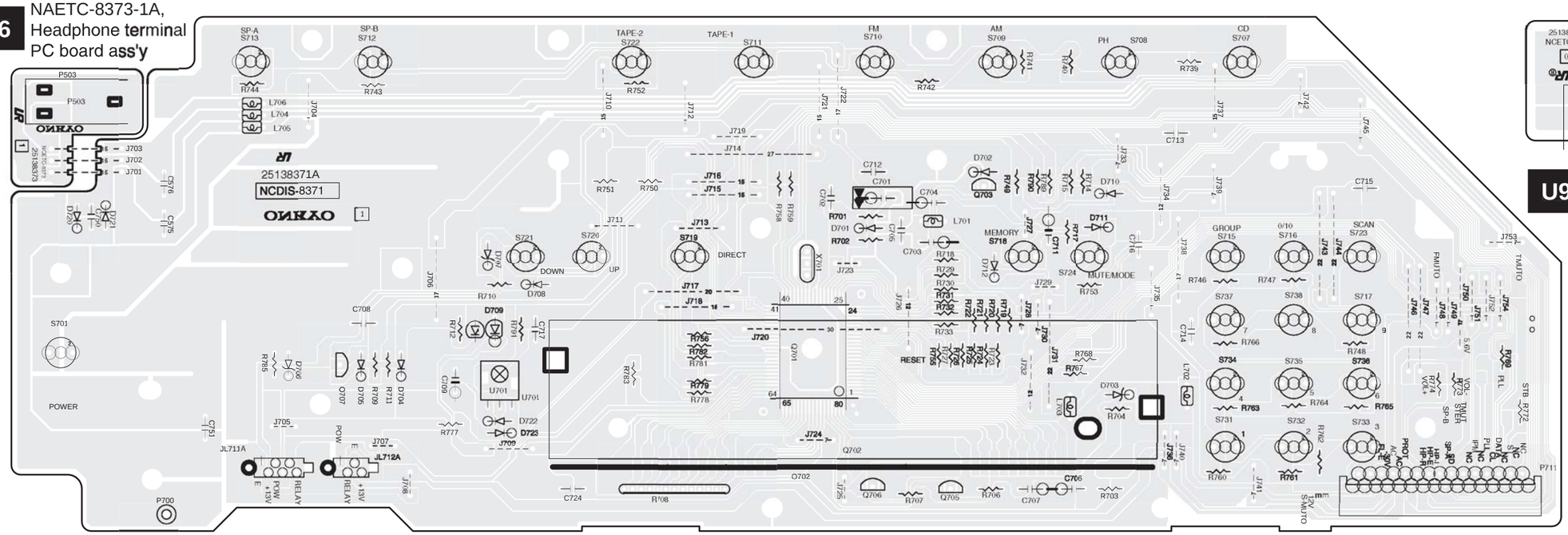
1 2 3 4 5

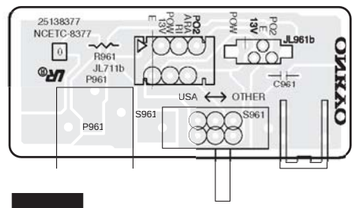
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE



PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE

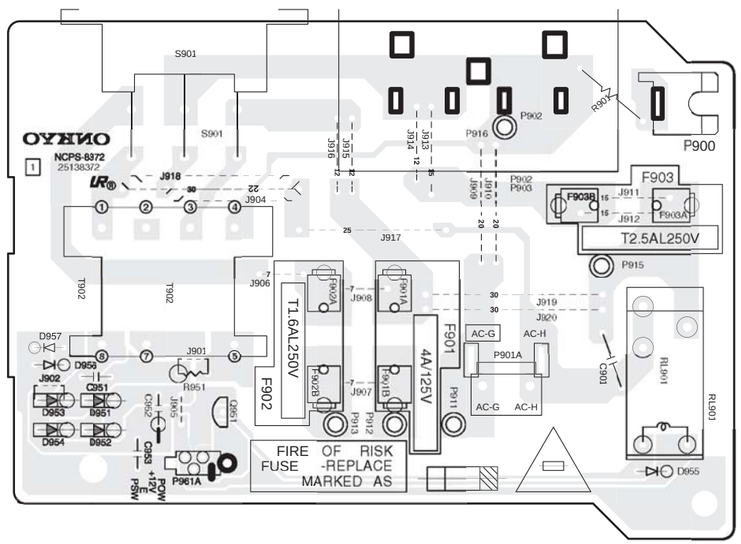
U6 NAETC-8373-1A, Headphone terminal PC board ass'y



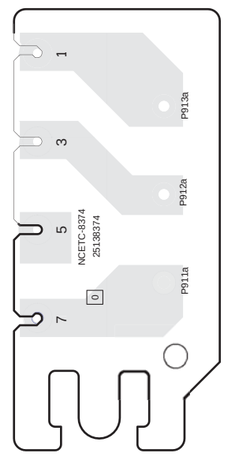


U9 NAETC-8377-1A,Terminal RI PC board ass'y

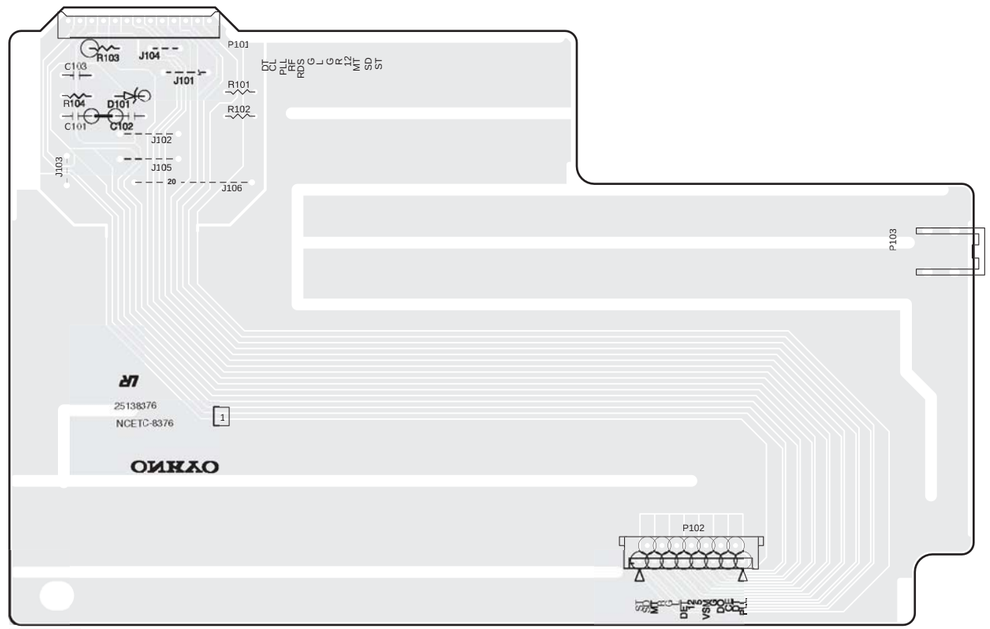
U4 NADIS-8371-1A,Display circuit PC board ass'y



U5 NAPS-8372-1A,Primary circuit PC board ass'y



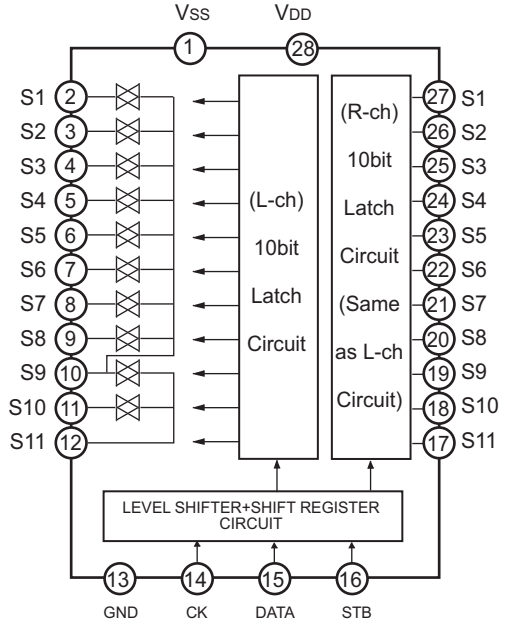
U7 NAETC-8374-1A,Transformer terminal PC board ass'y



U8 NAETC-8376-1A,Connection PC board ass'y

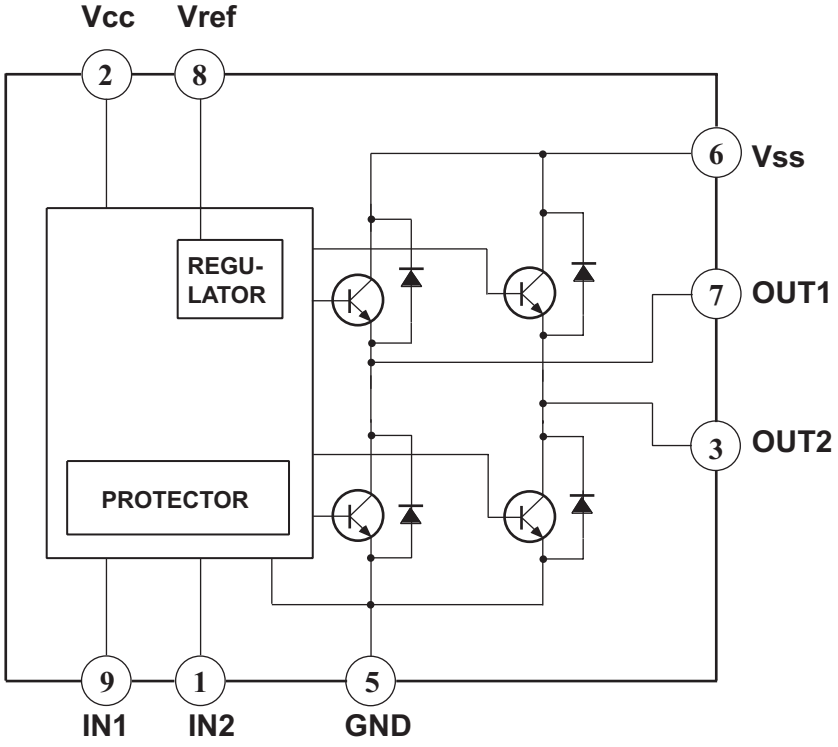
IC BLOCK DIAGRAMS AND DESCRIPTIONS

TC9273N-010(Analog Switch Array)



Pin No.	Symbol	Description
1	Vss	Negative power supply pin
13	GND	Digital ground pin
28	VDD	Positive power supply pin
2/27	S1	Input/Output pins
3/26	S2	
4/25	S3	
5/24	S4	
6/23	S5	
7/22	S6	
8/21	S7	
9/20	S8	
10/19	S9	
11/18	S10	
12/17	S11	
14	CK	Clock input pin for data transfer.
15	DATA	Serial data input pin for setting switches.
16	STB	Strobe input pin for data writing.

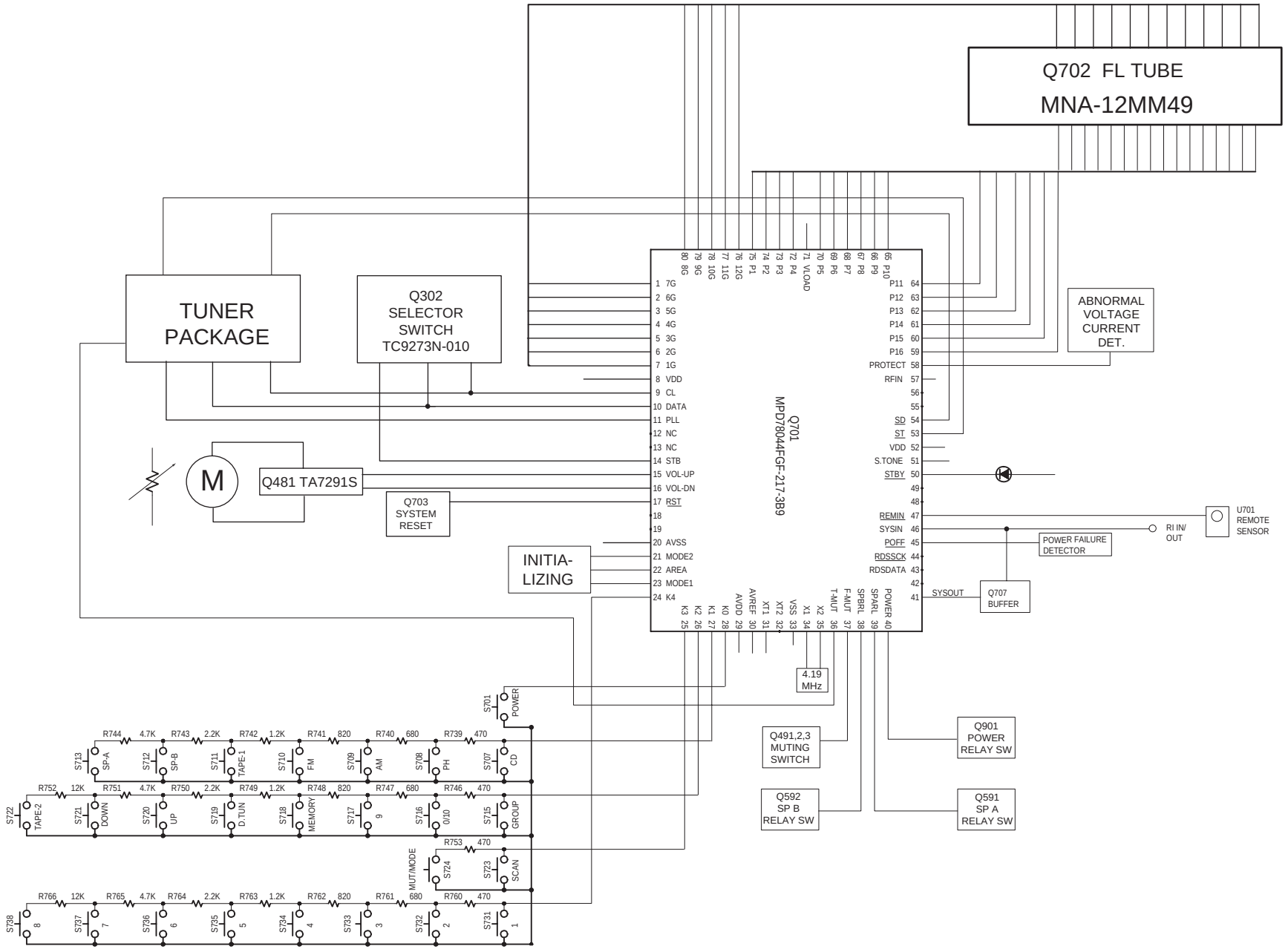
TA7291S(Volume Motor Driver)



INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW: Counter-clockwise direction
CW: Clockwise direction

MICROPROCESSOR-CONNECTION DIAGRAM



TX-8011

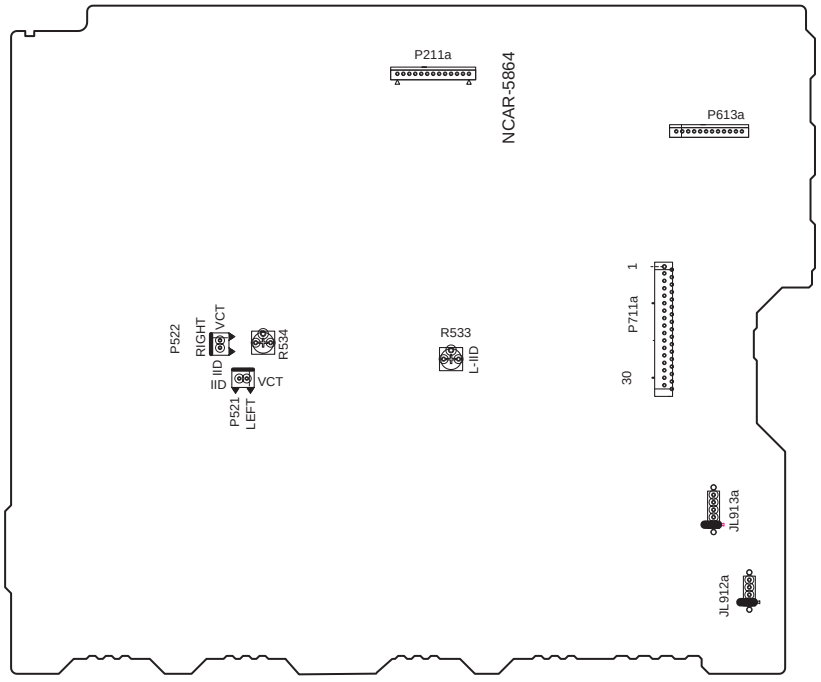
MICROPROCESSOR-TERMINAL DESCRIPTIONS

Pin No.	Function	I/O	Description
1-7	7G-1G	O	Grid control output pin
8	VDD		Power supply pin
9	CL	O	Clock output pin for selector switch and PLL IC.
10	DATA	O	Data output pin for selector switch and PLL IC.
11	PLL	O	Chip enable output pin for PLL IC.
14	STB	O	Chip enable output pin for selector switch IC.
15	VOL UP	O	Volume control output pin
16	VOL DOWN	O	Volume control output pin
17	RST	I	System reset input pin
20	AVSS		Ground pin for A/D converter
21	MODE2	I	Mode initializing pin
22	AREA	I	Band area set initializing pin
23	MADE1	I	Mode initializing pin
24-28	K4-K0	I	Operation key connection pin
29	AVDD		A/D converter power supply pin
30	AVREF		Reference voltage input pin for A/D converter
33	VSS		Ground pin
34,35	X1,X2		Main system clock pin. Connect the ceramic oscillator.
36	T-MUT	O	Muting control output pin for tuner section
37	F MUT	O	Muting control output pin for amplifier section
38	SPBRL	O	Speaker relay B control output pin
39	SPARL	O	Speaker relay A control output pin
40	POWER	O	Power relay control output pin
41	SYSOUT	O	System code output pin
45	POFF	I	Power failure detection input pin
46	SYSIN	I	System code input pin
47	REMIN	I	Remote control signal input pin
50	STBY	O	Standby indicator control pin
52	VDD		Power supply pin
53	ST	I	Stereo broadcast detection input pin
54	SD	I	Broadcast detection pin
58	PROTECT	I	Protection circuit detection pin
59-70	P18-P5	O	Segment control output pin
71	VLOAD		Pull-down resistor connection pin
72-75	P4-P1	O	Segment control output pin
76-80	12G-8G	O	Grid control output pin

ADJUSTMENT AND CONFIRMATION PROCEDURES 1

Idling current adjustment

Before Idling adjustment, turn the trimming resistors R533 and R534 to counter clockwise.
Connect the DC voltmeter to terminals P521 and P522.
After turn POWER to ON, adjust the trimming resistors R533 and R534 so that the reading of voltmeter becomes 2.0 mV.
After adjustment, attach the top cover.
Confirm the voltage of points above after about five minutes.
When less than 7.0 mV, readjust the resistors above so that the voltage becomes 7.0 mV.
When 7.0 mV to 9.0 mV, you are not necessary to adjust.
When more than 9.0 mV, readjust the resistors above so that the voltage becomes 9.0 mV.



Confirmation of protection circuit

1. Confirmation of operation of speaker relay

Confirm that the speaker relays turn ON approximate. 5 seconds after the power switch is turned ON.
Confirm that the speaker relays turn OFF immediately after the power switch is turned OFF.

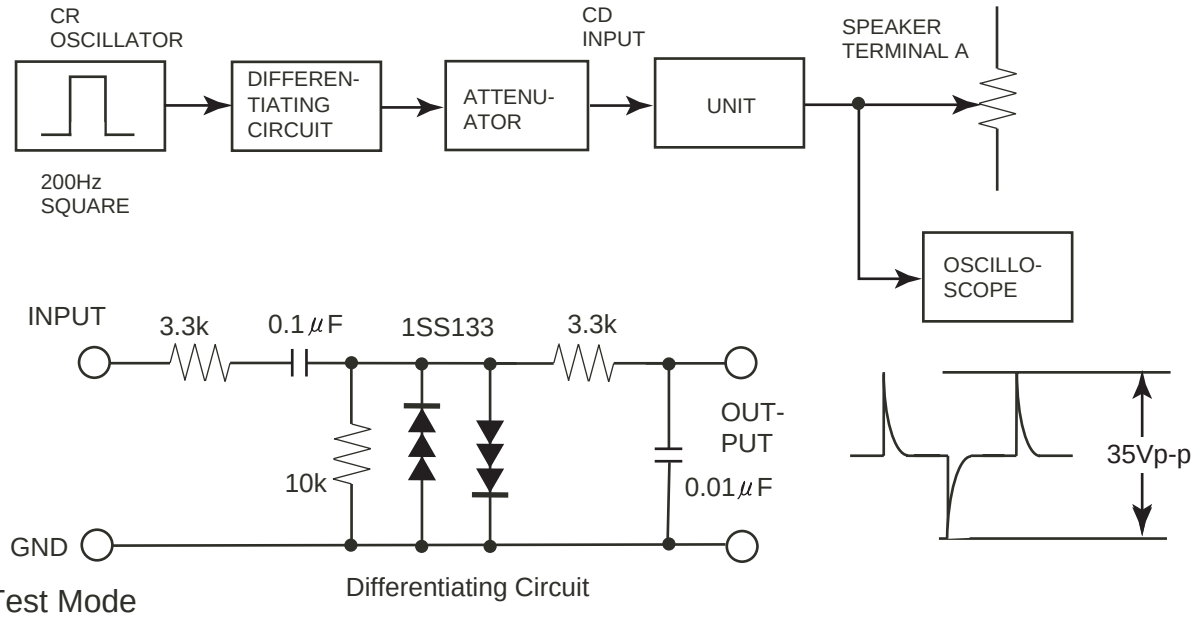
2. Confirmation of DC detection circuit

Press and hold down CD button, then press DIRECT TUNING button.
After "TEST- " on the FL tube light on, press TAPE 1 button to set the unit to "TEST-1 00".
Apply DC 1.5 to 3V to CD terminal with no load.
Confirm that the speaker relay turns OFF.
Apply DC -1.5 to -3V to CD terminal with no load.
Confirm that the speaker relay turns OFF.
Caution: Don't apply DC voltage more than 1 sec..

ADJUSTMENT AND CONFIRMATION PROCEDURES 2

3. Confirmation of Current detection circuit

Set the unit to "TEST-1 00".
Connect the differentiating circuit and apply the 200Hz square signal to CD terminal of each channel.
Adjust the attenuator or Volume so that the output level becomes 35V p-p.
Confirm that the speaker relay does not turn OFF when a 2.0 ohm load is connected.
Confirm that "Protect" indicator lights on when a 0.5 ohm load is connected.
Caution:Don't continue more than 3 seconds.

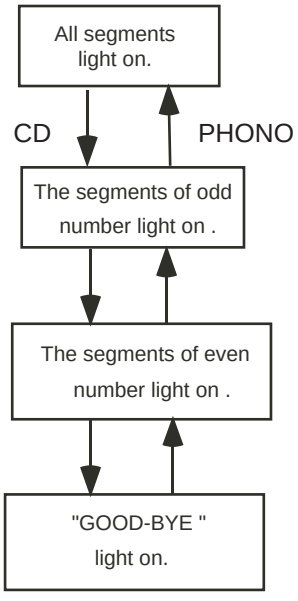


Differentiating Circuit

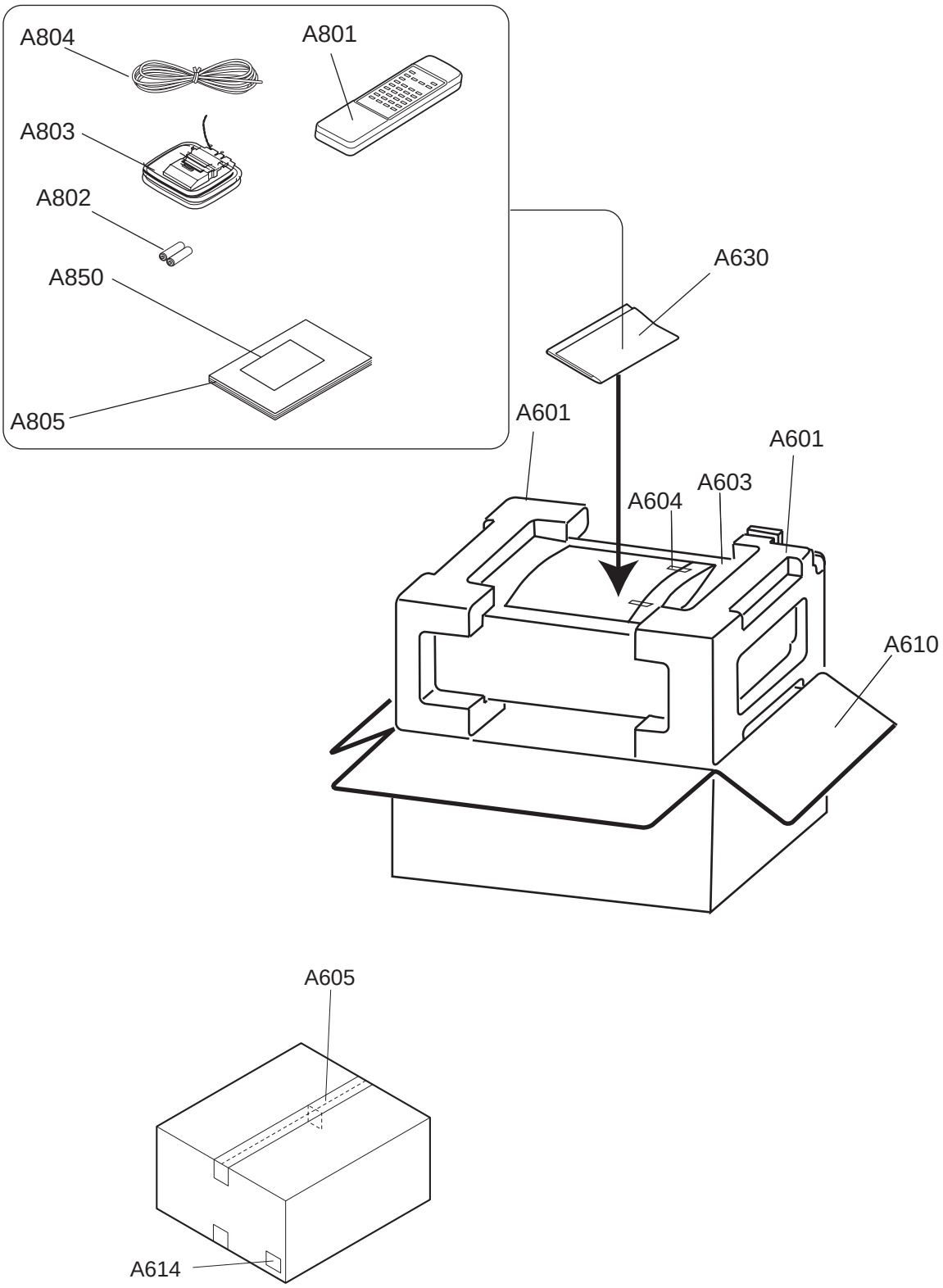
Test Mode

1. Turn POWER button on.
2. Press and hold down CD button, then press DIRECT TUNING button.
3. After "TEST-" on the FL tube is displayed, press CD button to set the unit to the test mode of FL tube.

Test mode of FL tube



PACKING VIEW



EXPLODED VIEW-PARTS LIST

NOTE: THE COMPONENTS IDENTIFIED BY MARK ! ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

REF.NO.	PART NO.		DESCRIPTION
A001	27212724		Front panel
A002	838130088		3TTB+8B,Screw
A004	28326246		Knob,function
A005	28326247		Knob,power
A006	28326248		Konb,selector
A007	28326249		Knob,tuning
A010	27141946		Retainer F
A011	838130088		3TTB+8B,Screw
A013	29110083		Tape,cloth
A015	27100321B		Chassis
A016	838430088		3TTB+8B(BC),Screw
A018	27190991		Holder
A020	27160378		Heat sink
A021	27141530A		Retainer
A023	27141672		Retainer H
A024	838130088		3TTB+8B,Screw
A026	801433		3SMS8W.SW+14B(BC),Special screw
A030	27300750	!	Bushing
A035	27190266-1 or 27190266		LSR-12R or KGLS-12RT,Holder
A040	838130088		3TTB+8B,Screw
A041	830440089		4TTC+8C(BC),Screw
A201	28184663-1		Top cover
A202	838430088		3TTB+8B(BC),Screw
A203	28141240		Cushion
A204	29362772		Label,cover
A205	27175319B		Leg
A206	28141494		Cushion
A207	838130088		3TTB+8B,Screw
A210	28325456		Knob,volume
A211	28325454		Knob,tone
A300	27123379		Back panel
A301	838430088		3TTB+8B(BC),Screw
A302	87643010		W3*10F(BC),Flat washer
A303	838930088		3TTB+8B(UN),Screw
A306	28192054		Clear plate
A352	28135244		Badge
E801	260208		Wire tie
F901	252163	!	4A-UL/T-237,Fuse
P102	2047150522		NCFC7-150522,Flexible cable
P711	2047311512		NCFC7-311512,Flexible cable
P901	253368LTK,	!	AS-UC-2,Power supply cord
Q521,Q522	2203043		2SC5197-O,Transistor
Q523,Q524	2203033		2SA1940-O,Transistor
T901	2301220	!	NPT-1283D,Power transformer

REF.NO.	PART NO.	DESCRIPTION
U1	1B042564-5A	NAAR-5864-5A,Main circuit PC board ass'y
U2	1B042565-5A	NAETC-5865-5A,Volume PC board ass'y
U3	1B042566-5A	NAETC-5866-5A,Secondary terminal PC board ass'y
U4	1B042571-1A	NADIS-8371-1A,Display circuit PC board ass'y
U5	1B042572-1A	NAPS-8372-1A,Primary circuit PC board ass'y
U6	1B042573-1A	NAETC-8373-1A,Headphone terminal PC board ass'y
U7	1B042574-1A	NAETC-8374-1A,Transformer terminal PC board ass'y
U8	1B042576-1A	NAETC-8376-1A,Connection PC board ass'y
U9	1B042577-1A	NAETC-8377-1A,Terminal RI PC board ass'y
U11	240146 or	FAE385-A02F or
	240134A	TFCE1U114B,Tuner unit

PACKING VIEW-PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
A355	29363194	Label
A601	29091763A	Pad ass'y
A603	29100034-1A	850*650,Polybag
A604	29110149	Tape, cellophane
A605	29110148	Tape PP
A606	29095906	Sheet
A610	29054302A	Carton box
A614	29364023	Label UPC
A630	29100097-1A	350*250,Polybag
A801	24140330	RC-330S,Remote control
A802	3010054	R6/AA(UM-3),Two batteries
A803	232140	NMA-3057,AM loop antenna
A804	292142	FM antenna
A805	29343912	Instruction manual
A850	29365090B	Warranty card

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